



# Improvement of Health Care and Treatment of Obese Persons



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## Research Career Development Award

### Focus:

- Evaluating quality of health care delivery to obese patients
- Testing weight loss therapies

**Dates:** July, 2003 – June, 2009

### Mentors:

- Eugene Z. Oddone, MD, MHS
- Eric C. Westman, MD, MHS

## Background

- 32% of VA patients are obese (BMI  $\geq 30$  kg/m<sup>2</sup>); over 70% are at least overweight (BMI  $\geq 25$  kg/m<sup>2</sup>).
- Obese patients may be **less likely** than normal weight patients to receive clinical preventive services even though they are **more likely** to develop preventable diseases.
- Low-carbohydrate diets appear more effective for weight loss than low-fat, calorie-restricted diets but their safety remains a concern and they **have not been compared to second-line interventions** (e.g., medications such as Orlistat).
- VA patients need safe, effective weight loss interventions to **reduce risk, improve health, and reduce health care cost.**

## Obesity and Utilization of Clinical Preventive Services (VA HSR&D IIR 05-127-1)

**Funding Period:** 1/1/2006-12/31/2007

**PI:** Yancy **Co-investigators:** Oddone, Fisher, Datta, Olsen, McDuffie, Ostbye

**Design & Participants:** Cohort study of over 2 million VA outpatients

**Objectives:** To determine whether important preventive screening services (for prostate, breast, cervical, and colon cancer, for dyslipidemia, and for Chlamydial infection) and vaccinations (influenza and pneumococcus) are received less frequently by overweight and obese veterans than by their normal weight peers.

### Progress:

- Initial patient cohort data cleaned
- Outcomes and covariables defined
- Merging of data sets and statistical modeling are next

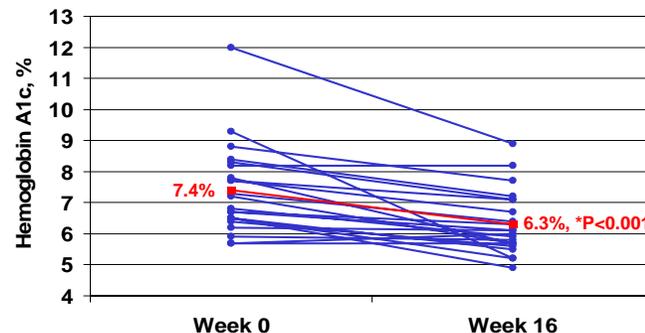
## A Low-Carbohydrate Diet for Diabetes (Pilot Study)

**PI:** Yancy

**Design & Participants:** Single-arm study of 21 VA outpatients with type 2 diabetes following the low-carbohydrate diet for 16 weeks

**Results:** Hemoglobin A1c improved from 7.4% to 6.3% (p<0.001) while:

- 7 of 21 participants **discontinued** their diabetes medication
- 10 of 21 participants **decreased** their diabetes medication
- 4 of 21 participants' diabetes medication **stayed the same**



\*Red line is the group mean. P value is for the mean change from baseline.

## A Low-Carbohydrate, Ketogenic Diet versus Orlistat for Weight Loss (CLIN-5-03F)

**Funding Period:** 7/1/04-6/30/07

**PI:** Yancy **Co-investigators:** Oddone, Westman, Grambow, McDuffie

**Design & Participants:** Randomized, two-arm, parallel intervention trial in 150 overweight/obese Durham VA outpatients

**Objectives:** To compare the body weight and metabolic effects of a low-carbohydrate, ketogenic diet to those of orlistat (Xenical™) combined with a low-fat/energy-restricted diet over 1 year.

### Progress:

- Screened N=525 → Enrolled N=146 (see table for demographic make-up)
- 67 of a potential 82 subjects (retention rate of 82%) have completed measurements at one year of follow-up so far
- All subjects who completed the one year intervention consented to an additional year of follow-up to examine the durability of the intervention.

Characteristic	Total N = 146
Gender, male, N (%)	105 (72%)
Race, Black, N (%)	81 (55%)
White, N (%)	62 (42%)

## Manuscripts During RCD Period (Selected)

- YANCY WS Jr, Westman EC, French PA, Califf RM.** Diets and clinical coronary events: the truth is out there. *Circulation* 2003;107(1):10-6.
- YANCY WS Jr, Vernon MC, Westman EC.** Brief report: a pilot trial of a low-carbohydrate, ketogenic diet in patients with type II diabetes. *Metabolic Syndrome and Related Disorders* 2003;1(3):239-43.
- YANCY WS Jr, Olsen MK, Guyton JR, Bakst RP, Westman EC.** A low-carbohydrate, ketogenic diet versus a low-fat diet to treat obesity and hyperlipidemia: a randomized, controlled trial. *Ann Intern Med* 2004;140(10):769-77.
- Das SR, Kinsinger LS, **YANCY WS Jr**, Wang A, Ciesco E, Burdick M, Yevich SJ. Obesity prevalence among veterans at Veterans Affairs medical facilities. *Am J Prev Med* 2005;28(3):291-4.
- YANCY WS Jr, Olsen MK, Curtis LH, Schulman KA, Cuffe MS, Oddone EZ.** Variations in coronary procedure utilization depending on body mass index. *Arch Intern Med* 2005;165(12):1381-7.
- Østbye T, Taylor DH Jr, **YANCY WS Jr**, Krause KM. Associations between obesity and receipt of screening mammography, Papanicolaou tests, and influenza vaccination. *Am J Public Health* 2005;95(9):1623-30.
- YANCY WS Jr, Foy M, Chalecki AM, Vernon MC, Westman EC.** A low-carbohydrate, ketogenic diet to treat type 2 diabetes. *Nutr Metab* 2005;2:34.
- Westman EC, **YANCY WS Jr**, Humphreys M. Dietary treatment of diabetes mellitus in the pre-insulin era (1914-1922). *Perspect Biol Med* 2006;49(1):77-83.
- Nordmann AJ, Nordmann A, Briel M, Keller U, **YANCY WS Jr**, Brehm BJ, Bucher HC. Effects of low-carbohydrate vs low-fat diets on weight loss and cardiovascular risk factors: a meta-analysis of randomized controlled trials. *Arch Intern Med* 2006;166:285-93.
- Westman EC, **YANCY WS Jr**, Olsen MK, Dudley T, Guyton JR. Effect of a low-carbohydrate, ketogenic diet program compared to a low-fat diet on fasting lipoprotein subclasses. *Int J Cardiol* 2006;110:212-216.
- YANCY WS Jr, Olsen MK, Dudley T, Westman EC.** Acid-base analysis of individuals following two weight loss diets. *Eur J Clin Nutr* 2007; Feb 14; [Epub ahead of print].